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Hiroyuki Yoshida

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EXAMINER

STELLING, LUCAS A

ART UNIT

PAPER NUMBER

1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,331	YOSHIDA, HIROYUKI	
	Examiner	Art Unit	
	Lucas Stelling	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 2, 9-11, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitoshi in view of Egan.

3. As to claim 1, Hitoshi teaches a method of producing sub-critical water decomposition products, comprising:

continuously **([0016], the material is continuously supplied to the reactor)** supplying material to be processed into a reactor through an inlet provided for the reactor, whose interior is kept at a sub-critical condition for water **([0014], and see instant application at page 13 paragraph [0026])**; and

continuously **([0025] and [0026])** taking out a liquid containing a decomposition product through one or a plurality of outlets provided at a different position from the position where the inlet of the reactor is provided, to adjust residence time of the liquid containing the decomposition product in the reactor.

4. Hitoshi is different from claim 1 in that multiple outlets for removing the decomposition products are not taught. The use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan **(Egan See Fig. 1, and col. 4 lines 10-45)**. Fractionating allows for the selective removal of specific types of reaction products from a column. It is also worth noting that Hiroshi recognizes that different decomposition products are created and the need to draw

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them off (**Hitoshi [0022]**). Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes applying a known technique (**fractionating**) to a known method (**sub-critical water oxidation as shown in Hitoshi**) ready for improvement to yield predictable results (**the known result of fractionating is that selected components from the reaction column can be drawn off during processing**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Hitoshi in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

5. As to claim 2, Hitoshi teaches a method of producing sub-critical water decomposition products, comprising:

continuously supplying material(**Hitoshi [0016], the material is continuously supplied to the reactor**) to be processed into a reactor through an inlet provided for the reactor, whose interior is kept at a sub-critical condition for water(**[0014], and see instant application at page 13 paragraph [0026]**);

continuously taking out a liquid containing a decomposition product through one (**Hitoshi [0025] and [0026]**) or a plurality of outlets provided.

6. Hitoshi is different from claim 2 in that multiple outlets for removing the decomposition products are not taught. The use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan (**Egan See Fig. 1, and col. 4 lines 10-45**). Fractionating allows for the selective removal of specific types of reaction products from a column. It is also worth noting that Hiroshi

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recognizes that different decomposition products are created and the need to draw them off (**Hitoshi [0022]**). Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes applying a known technique (**fractionating**) to a known method (**sub-critical water oxidation as shown in Hitoshi**) ready for improvement to yield predictable results (**the known result of fractionating is that selected components from the reaction column can be drawn off during processing**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Hitoshi in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

7. As to claim 9, Hitoshi and Egan teach the method of claim 1, and the temperature and pressure are within the ranges contemplated by applicant (**[0014] and see instant application at page 13 paragraph [0026]**).

8. As to claim 10, Hitoshi and Egan teach the method of claim 1, and the material to be processed is plastic (**[0001]**).

9. As to claim 11, Hitoshi teaches an apparatus for sub-critical water decomposition treatment, comprising:

a reactor (**Hitoshi 1**) configured to decompose material to be processed using sub-critical water;

heating means (**Hitoshi 13**) for heating a mixture composed of water and the to be processed material to form and keep sub-critical conditions for water; and

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compressing means (**Hitoshi 13, heating means also prepares the specified pressure, see [0024]**) for compressing the mixture;

introducing means (**Hitoshi [0024] teaches a feeding means**) for introducing the material to be processed into the reactor;

and inlet (**Hitoshi [0024] the slurry from the pump 12, is fed via the warmer 13 to the tank, which would have an inlet to accommodate the slurry intake**) for introducing the material to be processed to the reactor;

and outlet (**the outlet leads to the pressure regulating valve 21**) for letting out a mixture of a decomposition product and water from the reactor.

10. Hitoshi is different from claim 11, in that in multiple or adjustable outlets for removing the decomposition products are not taught. The use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan (**Egan See Fig. 1, and col. 4 lines 10-45**). Fractionating allows for the selective removal of specific types of reaction products from a column. Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes applying a known technique (**fractionating**) to a known method (**sub-critical water oxidation as shown in Hitoshi**) ready for improvement to yield predictable results (**the known result of fractionating is that selected components from the reaction column can be drawn off during processing**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Hitoshi in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

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11. As to claim 23, Hitoshi and Egan teach the method of claim 2, and the temperature and pressure are within the ranges contemplated by applicant (**Hitoshi [0014] and see instant application at page 13 paragraph [0026]**).

12. As to claim 26, Hitoshi and Egan teach the method of claim 2, and the material to be processed is plastic (**Hitoshi [0001]**).

13. Claim 3-8, 24, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0113024 to Pilz et al. ("Pilz") in view of Egan.

14. As to claim 3, Pilz teaches a method of producing sub-critical water decomposition products comprising:

continuously supplying material to be processed (**Pilz [0050]**) that contains solid matter having a slow decomposition rate with sub-critical water and a different specific gravity from that of the sub-critical water, into a vertical-type reactor whose interior is kept at sub-critical conditions for water, through an inlet provided for the reactor;

forming in the steady flow, in the following order from the upstream of the flow, at least a fluidized bed (**Pilz [0051]**) in which the solid matter is decomposed into fine particles by the sub-critical water and the fine particles fluidize in the flow, and a sub-critical water dissolution part in which the material to be processed is turned into further finer particles or completely turned into a soluble material to flow with the sub-critical water;

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15. further forming depending on the type of the material to be processed, a fixed bed (**a fixed bed portion can be formed based on the material decomposed, see also [0045] where Pilz recognizes sedimentation**) in which solid matter stays in a fixed location even with the flow, the fixed bed formed upstream of the fluidized bed.

16. Pilz is different from claim 3 in that multiple outlets for removing the decomposition products are not taught.

17. As to the multiple outlets, the use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan (**Egan See Fig. 1, and col. 4 lines 10-45**). Fractionating allows for the selective removal of specific types of reaction products from a column. It is also worth noting that Hiroshi recognizes that different decomposition products are created and the need to draw them off (**Hitoshi [0022]**). Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes applying a known technique (**fractionating**) to a known method (**sub-critical water oxidation as shown in Hitoshi**) ready for improvement to yield predictable results (**the known result of fractionating is that selected components from the reaction column can be drawn off during processing**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Hitoshi in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

18. As to claim 24, the temperature and pressure are within the ranges contemplated by applicant (**Pilz [0067]**).

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19. As to claim 27, the material to be processed is auto manufacture waste (**Pilz [0050]**).

20. As to claim 4 Pilz teaches a method of producing sub-critical water decomposition products, comprising:

21. causing a mixture of material to be processed containing a solid matter and sub-critical water to flow in sub-critical water in a steady state in an opposite direction to the direction in which the solid matter flows (**Pilz [0067] , [0050] and [0008];**);

22. forming in the flow, in the following order from the upstream of the flow, at least a fluidized bed (**Pilz [0051]**) in which the solid matter is decomposed into fine particles by the sub-critical water and the fine particles fluidize in the flow, and a sub-critical water dissolution part in which the material to be processed is turned into further finer particles or completely turned into a soluble material to flow with the sub-critical water;

further forming (**a fixed bed portion can be formed based on the material decomposed see also [0045] where Pilz recognizes sedimentation**), depending on the type of the material to be processed, a fixed bed in which solid matter stays in a fixed location even with the flow, the fixed bed formed upstream of the fluidized bed.

23. Pilz is different from claim 4 in that multiple outlets for removing the decomposition products are not taught. The use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan (**Egan See Fig. 1, and col. 4 lines 10-45**). Fractionating allows for the selective removal of specific types of reaction products from a column. Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes

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applying a known technique (**fractionating**) to a known method (**sub-critical water oxidation as shown in Hitoshi**) ready for improvement to yield predictable results (**the known result of fractionating is that selected components from the reaction column can be drawn off during processing**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Pilz in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

24. As to claim 5, Pilz teaches that sedimentation occurs **([0045])**.

25. As to claims 6 and 7, Pilz teaches that the solid matter floats about in the mixture, and at least partially follows the direction of gravitation force **(See Fig. 5, line 34, slurry comes in inlet 22 and goes down for a bit, before floating back up to exit through port 24)**.

26. As to claim 8, Pilz teaches that the mixture is a slurry of waste materials suspended in water **([0050])**.

27. As to claims 25 and 28, Pilz teaches that the reaction is sub-critical **([0067])**, and that the material to be treated is electronics or automobile recycling waste, which would have some plastics, rubber, and fiber in them **([0050])**.

28. Claim 12, 13 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pilz in view of Egan and Hitoshi.

29. As to claim 12, Pilz teaches an apparatus for sub-critical water decomposition treatment comprising:

a vertical-type reactor (**Pilz see Fig. 5**) configured to decompose material to be processed with sub-critical water (**Pilz [0067]**);

introducing means (**Pilz [0050], sluice or lock with a shredder reads on the introducing means**) for introducing the material to be processed into the reactor;

an inlet (**Pilz 22, Fig. 5, and [0048] and [0050]**) for introducing the material to be processed in into the reactor; and

an outlet (**Pilz 6 and 24, Fig. 5**) for out for letting out a mixture of water and a decomposition product from the reactor, characterized in that:

the reactor is arranged substantially vertically (**See Fig. 5, and [0047]**);

the inlet is provided for at least one of a top end portion or a bottom end portion of the reactor (**See Fig. 5, the inlet is provided at the upper portion of the reactor**);
and

30. the introduced mixture of the material to be processed and the sub-critical water is caused to flow, in the sub-critical water in a steady state, in an opposite direction to the direction in which the solid matter travels, so as to form in the flow, in the flowing order from the upstream of the flow, at least a fluidized bed in which the solid matter is decomposed into fine particles with the sub-critical water and the fine particles fluidized in the flow, and a sub-critical water dissolution part in which the material to be processed is turned into further finer particles or completely into a soluble material to flow with the subcritical water, and to further form, depending on the material to be processed, a fixed bed in which solid matter stays in a fixed position even with the flow, the fixed bed being formed upstream of the fluidized bed (**Pilz is a fluidized bed**

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reactor that can be operated in a sub-critical manner, and is fully capable of this operation).

31. Pilz is different from claim 12 in that multiple or adjustable outlets for removing the decomposition products are not taught, and a heating and pressurizing means is not taught at the inlet.

32. As to the heating and pressurizing means, Hitoshi teaches the use of warmer to bring the incoming slurry to the correct pressure and temperature for processing **(Hitoshi [0024])**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to include a heater and pressurizer for the incoming slurry to ensure that it is at the correct pressure and temperature for sub-critical processing.

33. As to the use of multiple outlets, the use of multiple outlets in a chemical reactor is known as fractionating: an example of which is shown in Egan **(Egan See Fig. 1, and col. 4 lines 10-45)**. Fractionating allows for the selective removal of specific types of reaction products from a column. Under Rationale D of *KSR v. Teleflex*, using a fractionation in a sub-critical water oxidation column constitutes applying a known technique **(fractionating)** to a known method **(sub-critical water oxidation as shown in Hitoshi)** ready for improvement to yield predictable results **(the known result of fractionating is that selected components from the reaction column can be drawn off during processing)**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for multiple outlets on the reactor of Pilz in order to use fractionating to remove selected decomposition products. See MPEP 2143(D).

34. As to claim 13, the fractionator of Egan contains multiple outlets for the different fractions **(See Egan in the Figure)**.

35. As to claim 15, monitoring means are known in the art, and it is common and within the skill and knowledge of one of ordinary skill in the art to provide such means to monitor the environment inside a chemical reactor. Therefore it would have been obvious to a person of ordinary skill in the art to provide monitoring means in the apparatus of Pilz, Hitoshi and Egan.

36. As to claim 16, the inlet orifice size will control the amount and speed at which material to be processed enters the reaction chamber. The size of the chamber determines the operating capacity of the reactor and its throughput. It is within the understanding of a person of ordinary skill in the art that the size of the inlet must be sufficient to supply the reactor with adequate reactants without overloading it. Therefore, the relative dimensions of the inlet and outlet of the apparatus would have been obvious to a person of ordinary skill in the art as the product of routine experimentation.

37. As to claim 17, use of plural reactors in series or parallel would be an obvious duplication of parts. See MPEP 2144.04(VI)(B).

38. As to claim 18, the inlet orifice size will control the amount and speed at which material to be processed enters the reaction chamber. The size of the chamber determines the operating capacity of the reactor and its throughput. It is within the understanding of a person of ordinary skill in the art that the size of the inlet must be sufficient to supply the reactor with adequate reactants without overloading it.

Therefore, the relative dimensions of the inlet and outlet of the apparatus would have been obvious to a person of ordinary skill in the art as the product of routine experimentation.

39. Also, for claim 18, the use of a secondary reactor joined to the outlet of the first reactor is shown in Hitoshi (**Hitoshi [0023]-[0025]**). The use of such a reactor allows for further chemical processing of the degradation products of the sub-critical water oxidation. Therefore, the use of a secondary reactor would have been obvious to a person of ordinary skill in the art at the time of invention in order to further chemically process the degradation products of sub-critical water oxidation.

40. As to claim 19, the use of a secondary reactor joined to the outlet of the first reactor is shown in Hitoshi (**Hitoshi [0023]-[0025]**). The use of such a reactor allows for further chemical processing of the degradation products of the sub-critical water oxidation. Therefore, the use of a secondary would have been obvious to a person of ordinary skill in the art at the time of invention in order to further chemically process the degradation products of sub-critical water oxidation. Furthermore, multiple reactors in series or parallel can be used to carry out more complicated downstream chemical treatment of the degradation products. See also MPEP 2144.04(B).

41. As to claim 20, Hitoshi teaches the use of a heating means between the first and second reactors (**Hitoshi 22, [0027]**). It is within the understanding of a person of ordinary skill in the art to use a heating or cooling means in order to adjust the temperature of the degradation products to the ideal temperature for the next chemical reaction. Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of invention to provide for a heating or cooling means before the second reactor.

42. As to claim 21, Hitoshi teaches the use of a pressure regulating valve provided in the outlet of the sub-critical water oxidation reactor (**Hitoshi [0021]**). It is within the skill and understanding of a person of ordinary skill in the art to use a back-pressure, or pressure regulating valve in a pressurized reactor to prevent over pressurization.

Therefore, it would have been obvious to a person of ordinary skill in the art to provide a back-pressure valve on the reactor, and to control the reactor pressure with it in order to prevent over pressurization.

43. As to claim 22, Pilz teaches the use of a heat exchanger and pressure reducing valve in series (**Pilz 16 and 18, and [0047]**). It is within the understanding of a person of ordinary skill in the art to use a heat exchanger and pressure regulating valve in series after products exit a reactor in order to both control the pressure in the reactor and to adjust the temperature and pressure of the products to the ideal temperature for another chemical reaction or disposal. Therefore it would have been obvious to a person of ordinary skill in the art at the time of invention to provide a cooling pipe before the back-pressure valve in order to adjust the degradation products to the ideal temperature and pressure for another chemical reaction or disposal.

44. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pilz, Egan and Hitoshi as applied to claim 12 above, and further in view of U.S. Patent No. 5,797,989 to Geissbuehler et al. ("Geissbeuhler").

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45. As to claim 14, Pilz, Egan and Hitoshi teach the apparatus of claim 12, but Egan teaches drawing off from different fixed heights in a column, and not using an adjustable height outlet. Geissbuehler teaches using an adjustable height outlet in a fluidized bed reactor (**See Geissbeuhler abstract and col. 1 lines 54-58**). Geissbuehler recognizes that an adjustable height outlet allows for adjusting the product discharge (**See Geissbuehler col. 3 lines 10-13**). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to provide for an axially displaceable outlet in the reactor of Pilz, Egan and Hitoshi in order to adjust the product discharge from the reactor.

Response to Arguments

46. Applicant's arguments filed 3-30-09 have been fully considered but they are not persuasive.

47. Applicant's arguments with respect to claims 1 are moot in view of the new grounds of rejection.

48. In response to applicant's argument against the combination of references that that Hitoshi and Pilz do not disclose drawing off products from a plurality of outlets, and that the separation zone in Egan is "not a reactor," the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.

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See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case a person of ordinary skill in the art would be able provide multiple outlets on the reactor in Hitoshi, as was done in the fractionating column in Egan, in order to achieve the known result of fractionating which is that selected components may be drawn off at selected heights in the column during processing.

49. In response to applicant's argument that the prior art does not recognize adjusting a distance through which the sub-critical water dissolution part flows to a vary a residence time of the solid matter and a residence time of the sub-critical water from each other, which forms steady concentration profiles of the products in the reactor, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). These limitations are a logical implication of combining Hitoshi, and Egan, or Hitoshi, Pilz and Egan -- a reactor with fractionating functionality will be abpe the adjust the distance through the reactor, which thereby effects the products residence time and also will provide for a steady concentration at any given level.

50. Applicant also argues with respect to claim 4 that Pilz does not disclose supplying a mixture including an solids and subcritical water through the same inlet. In response, applicant's attention is direct to Pilz, paragraph [0050] "continuous introduction of waste material particles can also be suspended in some water and

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added with the water through inlet 22.” See also Pilz [0067] the high pressure reactor operates at subcritical levels.

Conclusion

51. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Stelling whose telephone number is (571)270-3725. The examiner can normally be reached on Monday through Thursday 12:00PM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Las 6-19-09

/Matthew O Savage/
Primary Examiner, Art Unit 1797